

WHAT IS CLAIMED IS:

1. An refrigerant refill amount calculating apparatus comprising:

a concentration measuring unit which measures component
5 ratios of a mixed refrigerant contained in a refrigerating machine; and

a calculation processing unit which calculates refill amounts of respective refrigerant components which are required to fill a mixed refrigerant having a defined amount in defined
10 component ratios into the refrigerating machine based upon an amount of a refrigerant component which has been additionally filled into the refrigerating machine, and also, a change amount of component ratios which have been measured before and after the refrigerant component was filled.

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2. A refrigerant refill amount calculating apparatus as claimed in claim 1, further comprising:

an output unit for instructing the refill amounts of the refrigerant components calculated in said calculation
20 processing unit.

3. A refrigerant refill amount calculating apparatus as claimed in claim 1, wherein said concentration measuring unit includes:

25 a measuring cell into which the mixed refrigerant is conducted;

an infrared light source irradiating infrared rays

to said measuring cell; and

a detecting unit detecting infrared rays which has passed through said measuring cell.

5 4. An refrigerant refill amount calculating method comprising the steps of

measuring refrigerant component ratios of a mixed refrigerant filled into a refrigerating machine;

refilling a small amount of refrigerant components;

10 measuring again refrigerant component ratios of a mixed refrigerant; and

calculating a refill amounts of respective refrigerant components which is required to fill a mixed refrigerant having a defined amount in defined refrigerant component ratios into

15 said refrigerating machine.

5. An refrigerant refill amount calculating method as claimed in claim 4 wherein infrared rays are caused to pass through said mixed refrigerant, and then, penetrated infrared rays are
20 detected so as to obtain the refrigerant component ratios of said mixed refrigerant.